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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,763	09/06/2003	Michael William McRae	McRae-Albright-McIver	1116

7590 02/03/2005  
Michael McRae  
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Fair Oaks, CA 95628

EXAMINER
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SHANKAR, VIJAY

ART UNIT	PAPER NUMBER
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2673

DATE MAILED: 02/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/656,763

Applicant(s)

MCRAE ET AL.

Examiner

VIJAY SHANKAR

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 September 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 September 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/6/02.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to because the drawing should start with Figure 1 not figure 10; so all the drawings should be renumbered starting with Figure 1.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency.

Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

2. The disclosure is objected to because of the following informalities: Drawing Figures which should be called "BRIEF DESCRIPTION OF THE DRAWINGS " and Figures 10 should be renumbered as Figure 1.... and figure 11 as figure 2....

3. for all pages 9-17 of the specification.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-5, 9, 11-12, 14, 16-20, 24, 26-27, and 29 are rejected under 35 U.S.C. 102(e) as being anticipated by Zngf et al (Pub. No. US 2004/0012564).

Regarding Claims 1 and 16, Zngf et al teaches a human-machine-interface device for detecting hand manipulations (Figures 1-3) comprising:  
a sensor means (2, 3, 21, 31 in fig.1; paragraph 0010-0011) for acquiring hand manipulation information (figures 1-2; paragraph 0010 - 0017); a attachment means for attaching sensor means (fig.1) to the human hand whereby the user is not required to hold onto the device (Figure 1-2; paragraph 0010- 0016); the interface electronics means for converting the sensor means information to a signal format that is acceptable to a machine (Figures 1-3; Paragraph 0005; 0010- 0017); and a transferring means to convey the interface electronics output signals to a machine {paragraph 0005} (Also see Figures 1-3; summary and Paragraph 0010- 0017).

Regarding Claims 2 and 17, Zngf et al teaches the attachment means is further ergonomically shaped to not interfere with hand movements {paragraph 0002}, whereby the user retains hand dexterity for performing standard office duties such as answering the phone or typing on a computer keyboard (Figure 1-2; paragraph 0002, 0010- 0016). Since the hand is not gripping any input device, so the hand is free and the user's hand is able to perform standard office duties such as answering the phone or typing on a computer keyboard.

Regarding Claims 3 and 18, Zngf et al teaches the attachment means is further ergonomically shaped to leave the pads of the finger(s) and / or thumb(s) exposed whereby the user retains the tactile touch senses of the finger and / or thumb pad(s) for typing on a computer keyboard, writing with a pen, or for performing other standard functions that require the touching or gripping surface of the finger or thumb pad(s). (Figure 1-2; paragraph 0002, 0010- 0016). Since the hand is not gripping any input device, so the hand is free and the user's hand is able to type on a computer keyboard, writing with a pen, or for performing other standard functions that require the touching or gripping surface of the finger or thumb pad(s)

Regarding Claims 4 and 19, Zngf et al teaches the attachment means is further ergonomically shaped to position the sensor means to be manipulated by an opposing finger(s) or thumb, whereby the sensors can be manipulated solely within the confines of the hand, and whereby an additional planar tabletop type surface is not required to manipulate the sensor means. (Figure 1-2; paragraph 0010- 0016).

Regarding Claims 5 and 20, Zngf et al teaches the attachment means is further ergonomically shaped to position the sensor means so that accidental sensor activation is avoided, whereby the user can operate a computer keyboard, answer the phone, or perform other standard functions without accidentally activating the sensor means. (Figure 1-2; paragraph 0010- 0016).

Regarding Claims 9 and 24, Zngf et al teaches the transferring means comprises of a cable that is routed between the base knuckles of the hand in a captive fashion whereby the cable will not slip off the top of the hand, and whereby the need for additional cable hold down straps is minimized or eliminated. (Figure 1-2; paragraph 0002, 0010- 0016).

Regarding Claims 11 and 26, Zngf et al teaches a relocating means for retracting the sensor means whereby the sensor means can be removed and docked onto or into the relocating means. (Figure 1-2; paragraph 0002, 0010- 0016).

Regarding Claims 12 and 27, Zngf et al teaches the transferring means is a cable that is retractable to and extendable from the relocating means whereby the cable is maintained in a snug fashion when the sensor means is deployed, and the cable is neatly withdrawn when the sensor means is retracted. (Figure 1-2; paragraph 0002, 0010- 0016).

Regarding Claims 14 and 29, Zngf et al teaches the attachment means further includes a non-slip interior means for securing the attachment means onto the hand whereby the attachment means not twist and turn while the sensor means is being manipulated. (Figure 1-2; paragraph 0002, 0010- 0016).

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 6-8, 10, 13, 15, 21-23, 25, 28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zngf et al in view of Eng et al (5,638,092).

8.

Regarding Claims 6 and 21, Zngf et al does not teach the attachment means is further ergonomically shaped to facilitate universal right or left hand operation, and or universal finger or thumb operation, whereby the user can easily remove the device from one finger, thumb, or hand, and relocate the device on a different finger, thumb, or hand.

However, Eng et al teaches that the input comprising the attachment means is further ergonomically shaped to facilitate universal right or left hand operation, and or universal finger or thumb operation, whereby the user can easily remove the device from one finger, thumb, or hand, and relocate the device on a different finger. (see summary; Figures 1-2; Col.3, line 47- col.4, line 56).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Eng et al into Zngf et al for making the input device universal so it could be used in any finger or thumb of left hand or right hand of the user and also to make the input device more user friendly.



Regarding Claims 7 and 22, Zngf et al does not teach the attachment means further positions a part or all of the sensor means on the attachment means in a relocatable fashion whereby a part or all of the sensor means can be relocated on the attachment means for universal right or left-hand operation, and or universal thumb or finger operation.

Eng et al teaches the input device having the attachment means further positions a part or all of the sensor means on the attachment means in a relocatable fashion whereby a part or all of the sensor means can be relocated on the attachment means for universal right or left-hand operation, and or universal thumb or finger operation. (see summary; Figures 1-2; Col.3, line 47- col.4, line 56).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Eng et al into Zngf et al for making the input device universal so it could be used in any finger or thumb of left hand or right hand of the user and to provide more user friendly input device.

Regarding Claims 8 and 23, Zngf et al does not teach the attachment means further positions a part or all of the sensor means on the attachment means in an adjustable fashion whereby the user can adjust and or change the location (s) of a part or all of the sensor means to obtain a customized fit.

Eng et al teaches the input device having the attachment means further positions a part or all of the sensor means on the attachment means in an adjustable fashion whereby the user can adjust and or change the location (s) of a part or all of the sensor means to obtain a customized fit. (see summary; Figures 1-2; Col.3, line 47- col.4, line 56).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Eng et al into Zngf et al for making the input device adjustable so it will be customized fit for the user and also to make the input device more user friendly.

Regarding Claims 10 and 25, Zngf et al does not teach the transferring means exits the attachment means in a manner that facilitates universal right or left hand operation, and universal thumb or finger operation.

Eng et al teaches the input device having the transferring means exits the attachment means in a manner that facilitates universal right or left hand operation, and universal thumb or finger operation. (see summary; Figures 1-2; Col.3, line 47- col.4, line 56).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Eng et al into Zngf et al for making the input device universal so it could be used in any finger or thumb of left hand or right hand of the user and to provide more user friendly input device.

Regarding Claims 13 and 28, Zngf et al does not teach the transferring means employs a wireless transmitter and receiver arrangement whereby the user can work in an un-tethered fashion.

Eng et al teaches the input device having the transferring means employs a wireless transmitter and receiver arrangement whereby the user can work in an un-tethered fashion. (see summary; Figures 1-2; Col.3, line 47- col.4, line 56).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Eng et al into Zngf et al for making the input device wireless and user friendly , so user will have freedom to do other work while using the input device.

Regarding Claims 15 and 30, Zngf et al does not teach the attachment means further includes a adjustable conforming means for securing the attachment means to a wide range finger shapes and sizes whereby a single device is capable of fitting a wide range of users.

Eng et al teaches the input device having the attachment means further includes a adjustable conforming means for securing the attachment means to a wide range finger shapes and sizes whereby a single device is capable of fitting a wide range of users. (see summary; Figures 1-2; Col.3, line 47- col.4, line 56).

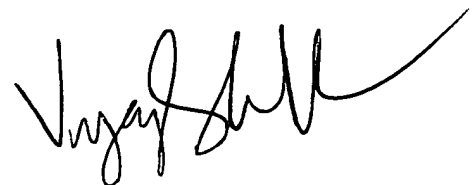
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Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Eng et al into Zngf et al for making the input device universal so it could be used in any finger or thumb of left hand or right hand of the user.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VIJAY SHANKAR whose telephone number is 703-305-4763. The examiner can normally be reached on M-F 6:00-3:30.

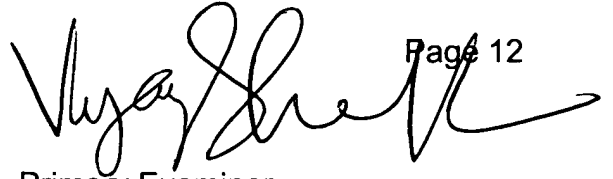
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BIPIN SHALWALA can be reached on 703-305-4938. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



VIJAY SHANKAR

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Primary Examiner  
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